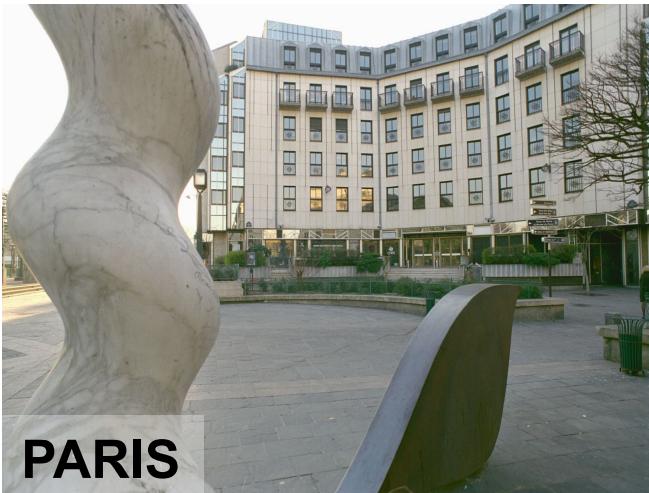


# CNES Organisation Overview

## 4 centres for complementary vocations



**PARIS**



**KOUROU**



**TOULOUSE**



**EVRY**

# The centres



**Launch base**  
Ariane 5  
Soyouz  
Vega  
Preparation of the  
future



Headquarters

**PARIS**  
**192**

**EVRY**  
**234**

Launchers study, design,  
development of Ariane, Soyuz,  
Vega launch systems,  
preparation for the future

A map outline of France with the city of Toulouse highlighted in light blue. A yellow dot marks the location of the Toulouse centre. To the right of the dot is a yellow number '1760'. Below the map, the text reads:

**TOULOUSE**  
**1760**

Orbital vehicles  
study, design,  
development and  
control of satellites



**56.5 hectares  
(140 acres)**

**146,000 m<sup>2</sup> of buildings  
(1.5 million sq ft)**

**70% of the CNES workforce**

**75% are engineers and  
managers**

*The average age is 45  
and has been stable for 3 years*



## Leads

**the orbital system Projects  
(satellites and onboard payloads, ground  
segments),**

**satellite station acquisition & keeping  
Operations – Exploitation .**

**Technical policy**

**Preparation of the future**

## Ensures

**use of data and  
innovative  
applications.**

**Develops  
and executes scientific  
balloon-borne  
experiments.**



## Projects



Projets orbitaux  
Lionel Suchet



Mission & exploitation  
de données  
Geneviève Campan



Ballons  
Marie-Anne Clair



Direction  
Marc Pircher



Direction adjointe  
Philippe Goudy

## Skills



Qualité  
Patrick Saunier



Charges utiles  
Sciences image  
Christophe Valorge



Système Bord-Sol  
Philippe Marchal



Techniques véhicules  
Loic Boloh



Produits & segment sol  
Brigitte Behal



Opérations  
Bernard Cabrières



Radiofréquence  
Jean-Paul Aguttes

## Support

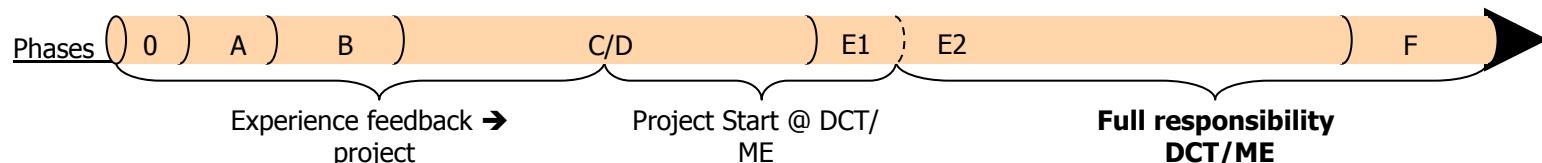


Support établissement  
Guy Nabet

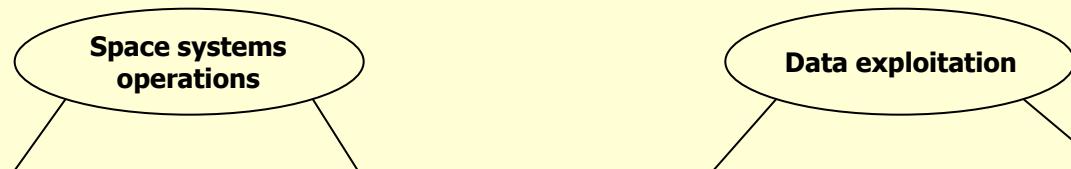


Ressources humaines  
Communication interne  
François Levasseur

... in the project life...



... to carry out functions ...

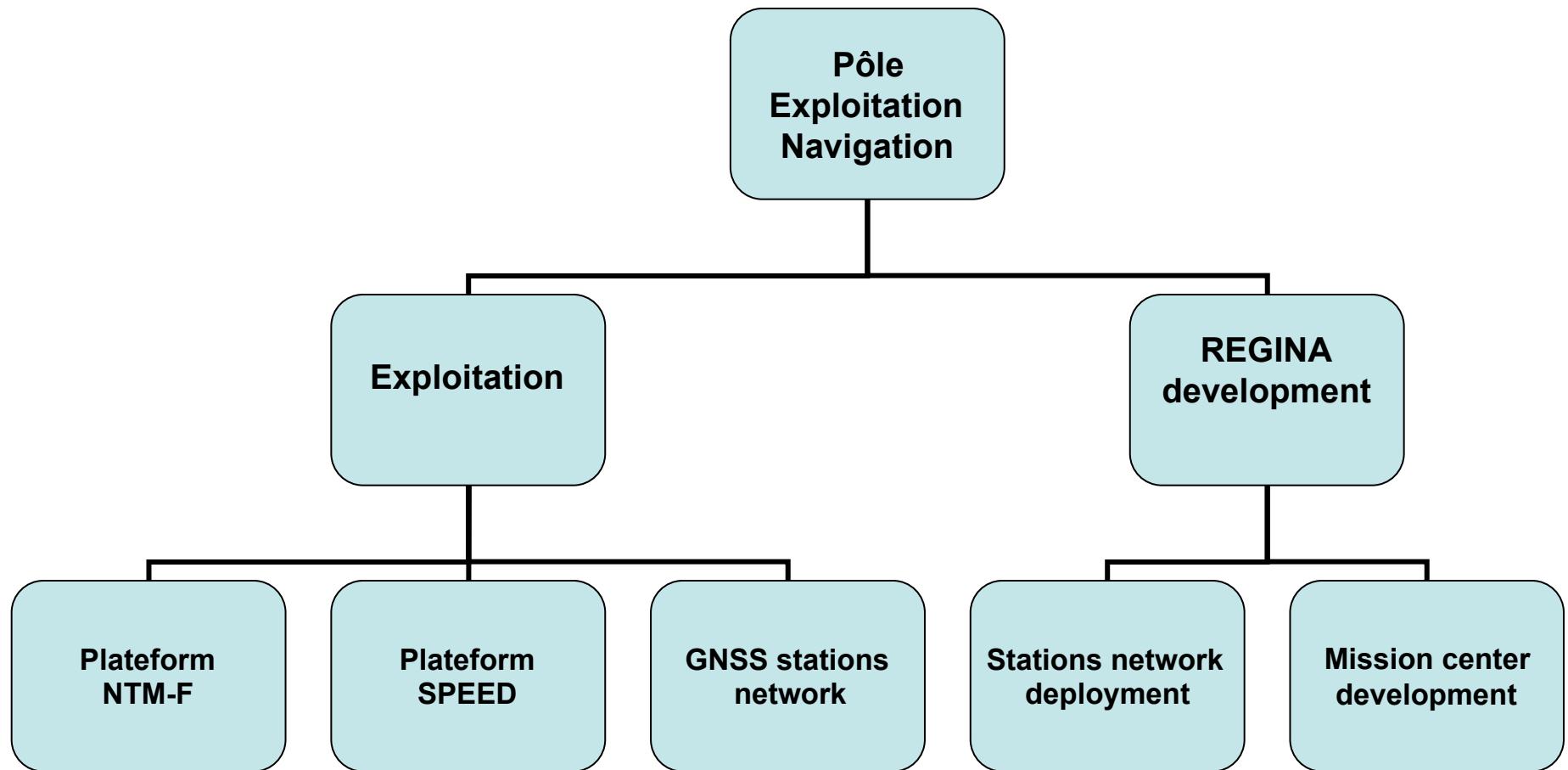


Platform operation	Payload operation	Calibration/Validation	Users services
<b>Platform operation</b> ✓ Plateform control ✓ Ground Station system  (Delegated to DCT/OP)	<b>Payload operation</b> ✓ Planning, Scheduling ✓ HK monitoring ✓ Data processing ✓ Data delivery	<b>Calibration/Validation</b> ✓ Quality ✓ Performance	<b>Users services</b> ✓ Data centers

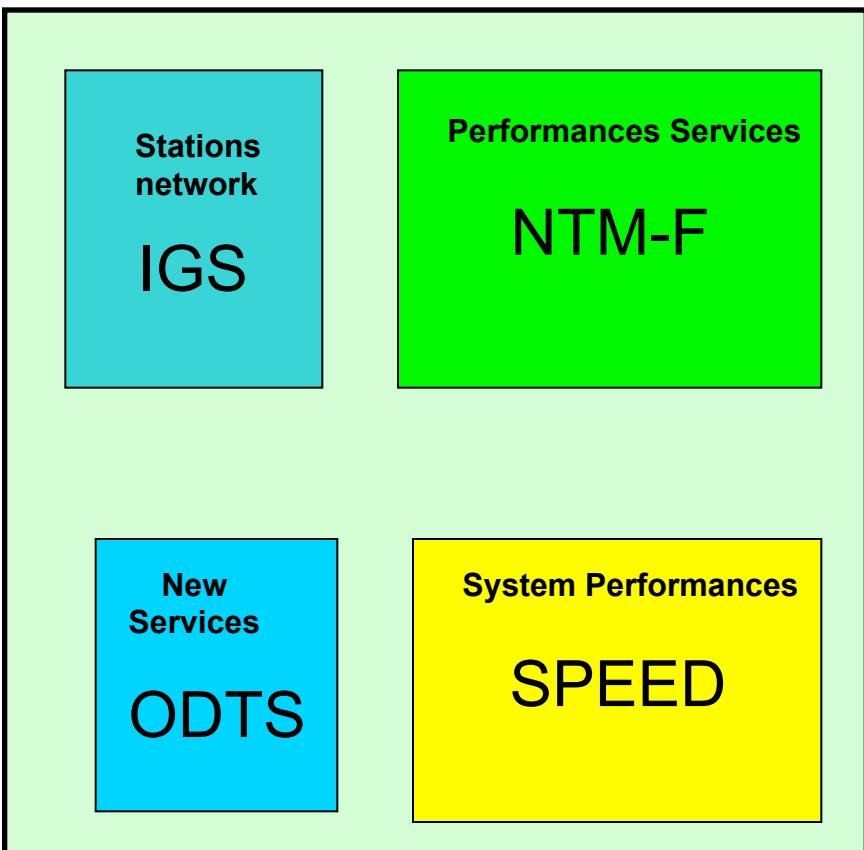
... Organized in ...

4 thematic offices	1 data quality office	ME/EI
<b>ME/OT</b> Earth Observation	Spot, VGT, Hélios, Pléiades, IASI, Parasol, Calipso, Polder, Jason, Doris, Champ, Grace, Goce, Altica, HY2, Cryosat, ...	Pôles (ICARE, ETHER, POSTEL), GIP Mercator-ocean, altimétrie, Océanographie, Imagerie, Météo, ...
<b>ME/EU</b> Space Science and Exploration	Corot, Rosetta, T2L2, ChemCam, Picard, Planck, Herschell, Exomars, Bepi, ...	CDPP, Medoc, CDS, SPASE, ...
<b>ME/EM</b> Microgravity experiment	CADMOS expériences nationales, CADMOS ESA, Cardiolab, Cardioméd, Cassette végétales, Déclic, Vols Paraboliques, ...	ULISS, ...
<b>ME/NC</b> Navigation and Data Collection	Cospas-Sarsat, EGNOS PACF, GPS, TM Ariane	
1 computer science support office		ME/PRM

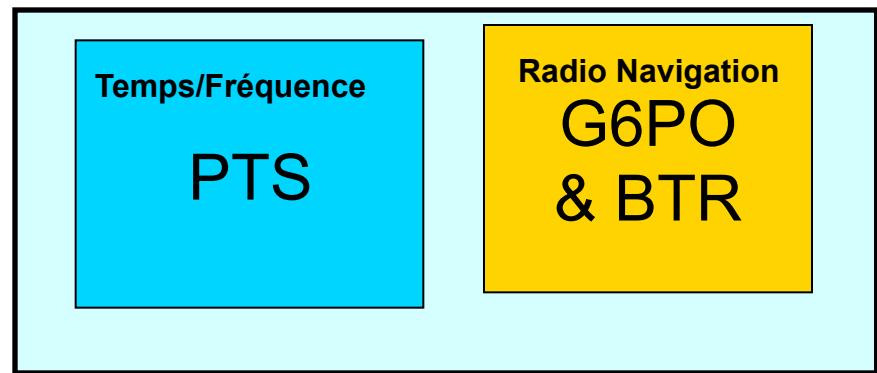
- Operation and maintenance of CNES navigation facilities
- Daily processing of data provided to internal or external users
- Integration, test, and qualification of new tools



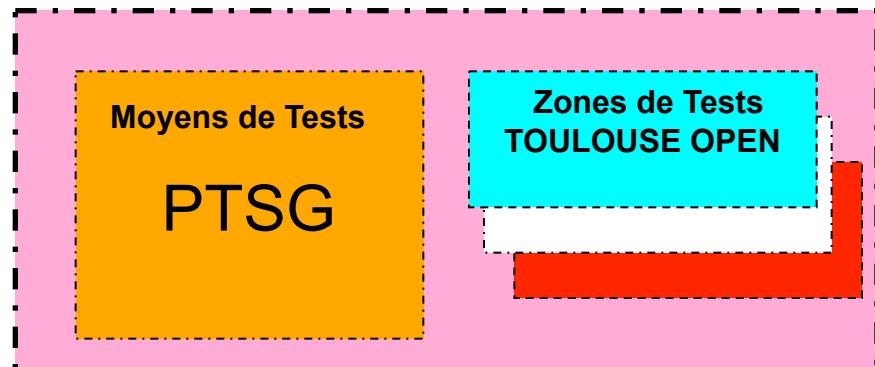
## Exploitation (ME)



## Laboratories (RF)



## PF régionale (GUIDE)



## ■ NTMF (Navigation and Time Monitoring Facility)

- ◆ Navigation systems performances assessment
  - Accuracy, continuity, availability, integrity and compliance with the standards (MOPS, ICD)
  - GPS,
  - EGNOS,
  - WAAS,
  - In the next future GLONASS, GIOVE / IOV GALILEO
- ◆ Collection of public datas from internet and partners
- ◆ Dedicated or off the shelf tools (Pegasus)

## ■ SPEED (Support Platform for Egnos Evolutions and Demonstrations)

- ◆ EGNOS Simulation platform to perform experimentations
  - Preparation of the future
  - New services demonstrations
  - Follows an Experimentation plan to test new concepts (authentication, ionospheric models, new modulations, multi constellation, multi frequencies,...)

## ■ Network of GNSS stations for IGS contribution

- ◆ Existing GPS stations in Toulouse, Libreville, Tahiti, Kerguelen, Hartebesthoek,
- ◆ Grasse
- ◆ New GNSS stations : REGINA